

**TRANSLATION****PATENT COOPERATION TREATY****PCT****INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>2003P11638WO</b>	<b>FOR FURTHER ACTION</b>	See Form PCT/IPEA/416
International application No. <b>PCT/EP2004/051584</b>	International filing date (day/month/year) <b>23.07.2004</b>	Priority date (day/month/year) <b>03.09.2003</b>
International Patent Classification (IPC) or national classification and IPC <b>G06F3/033</b>		
Applicant <b>SIEMENS AKTIENGESELLSCHAFT</b>		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of <u>9</u> sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising: a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows: <input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4. This report contains indications relating to the following items: <input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
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## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/051584

Box No. I

Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_ which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-6 \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the claims:
- nos. 1-8 \_\_\_\_\_ as originally filed/furnished
- nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19
- nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the drawings:
- sheets 1/1 \_\_\_\_\_ as originally filed/furnished
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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**Box No. V** Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	4-5, 7	YES
	Claims	1-3, 6, 8	NO
Inventive step (IS)	Claims		YES
	Claims	1-8	NO
Industrial applicability (IA)	Claims	1-8	YES
	Claims		NO

## 2. Citations and explanations (Rule 70.7)

**1. Prior art:** This report makes reference to the following documents:

D1: DE 101 20 691 A1 (SIEMENS AG), 21 November 2002  
(2002-11-21)

D2: DE 197 30 297 A1 (MANNESMANN VDO AG, 60388  
FRANKFURT, DE), 21 January 1999 (1999-01-21)

1.1 D1 describes a control unit, in particular for controlling a multimedia system in a motor vehicle, and comprising a control element which is rotatable about an axis (z) and movable along said rotational axis and lockable in position on this axis. The control element can additionally be moved in any direction in at least one plane orthogonal to said axis in order to drive the movement of a cursor which can be displayed on a screen of the multimedia system; according to D1, this additional movement can be dispensed with, and the cursor can be displaced using only the touchpad.

1.2 D2 relates to a control device for the two-dimensional selection of functions, in particular in motor vehicles. The cursor is movable in a first

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dimension by rotation of the rotary switch in a first axial position and in a second dimension by rotation of the rotary switch in a second axial position.

## 2. NOVELTY

The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claims 1-3, 6 and 8 is not novel (PCT Article 33(2)).

2.1 Document D1 discloses (the references in parentheses are to that document):

a rotary/pressure actuator comprising

an annular rotation sensor (6a, 6b) which has

an inner ring (6a) and

a rotary ring (outer ring 6b) which is rotatable about the inner ring (6a) around an axis (z), comprises a handle (control ring 1),

and is arranged in a linearly movable manner along the axis (z) in relation to a housing (20) ([0001], [0027]), and

an inner part (touchpad 2) which is arranged in an inner chamber (12) of the annular rotation sensor (6a, 6b) and is movable linearly along the axis (z) in relation to the housing (20), together with the annular rotation sensor (6a, 6b) (column 3, lines 3-7),

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it being possible to trigger a tracer function by moving the handle (control ring 1) and/or the inner part (column 3, lines 3-7 and 22-26).

That rotary/pressure actuator is characterised in that

- the rotation sensor (6a, 6b) and the inner part are arranged in a pot-shaped guide element (receptacle 14) which is linearly movable along the axis (z) ([0020]-[0022]),
- the inner ring (6a) of the rotary sensor (6a, 6b) is secured against rotation in the guide element (receptacle 14) ([0020]),
- the rotation sensor (6a, 6b) and the inner part are fixed to the guide element (receptacle 14) in an immovable manner along the axis (z) ([0020]-[0022]), and
- the guide element (receptacle 14) acts upon a tracer (joystick 3, see ([0021]) in order to implement the tracer function.

The subject matter of claim 1 is thus not novel (PCT Article 33(2)).

2.2 Dependent claims 2-3, 6 and 8 do not contain any features which, in combination with the features of any claim to which they refer, meet the PCT novelty or inventive step requirements, for the following reasons:

- claim 2: the rotary/pressure actuator of D1 comprises

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a touchpad (2);

- claim 3: a restoring element is implicitly contained in the rotary/pressure actuator of D1 (for example in the joystick 3) and acts upon the guide element (14); otherwise the joystick could not fulfil its tracer function (column 3, lines 2-5);
- claim 6: the control unit of D1 contains this type of rotary/pressure actuator;
- claim 8: the control unit of D1 is surrounded by a plurality of keys (see figure 2 and column 3, lines 60-64).

### 3. Inventive step

3.1.1 Even if the subject matter of claim 1 were recognised as novel, it would not involve an inventive step (PCT Article 33(3)).

3.1. D1, which is acknowledged on page 1 of the application, is regarded as the prior art closest to the subject matter of claim 1 and discloses the features of claim 1 (see point 2.1 above).

3.1.2 The subject matter of claim 1 could be considered to differ from the rotary/pressure actuator known from D1 in that:

- a displacement function in a plane orthogonal to the rotational axis of the control element for moving the cursor is dispensed with;
- a touchpad is also dispensed with; and

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- all the corresponding components described in D1 are thus omitted, and the joystick of D1 is replaced by a tracer.

3.1.3 The present invention can therefore be considered to address the problem of simplifying the rotary/pressure actuator and the control element for a multimedia or navigation system of a motor vehicle of the type described in D1, and hence of achieving a less costly structure.

3.1.4 The solution proposed in claim 1 of the present application cannot be considered inventive (PCT Article 33(3)) for the following reasons:

(a) D1 expressly mentions (column 1, lines 64-67) the possibility of using only the touchpad to move the cursor; this is a clear indication for a person skilled in the art to omit those features of D1 which permit an x/y displacement in a plane orthogonal to the rotational axis of the control element in order to move the cursor, as well as the touchpad, especially if he is aiming at a simplified, and hence less costly structure, following the saying: what is not used can be dispensed with;

(b) the omission of these features of D1 which make it possible to control the cursor movement, naturally simplifies the construction of the rotary/pressure actuator: the joystick is replaced by a tracer in order to obtain the pressure function; aside from that, the function "cursor movement control" is no longer present in the rotary/pressure actuator as per claim 1. This type

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of simplification does not involve an inventive step (PCT Article 33(3)).

3.2 Moreover, dependent claims 2-8 do not contain any features which, in combination with the features of any claim to which they refer, meet the PCT inventive step requirements, for the following reasons:

3.2.1 In the case of dependent claims 2-3, 6 and 8, see point 2.2;

- in the case of claim 2: the arrangement of a touchpad in the inner chamber of the rotary/pressure actuator is provided in D1, and makes it possible to control the cursor movement easily; this fulfils the entire function of the rotary/pressure actuator described in D1, while achieving a simple structure;
- in the case of claim 3: D2 indicates (column 2, lines 55-65; claim 2) that a pressure spring is contained in the switch (5) and thus confirms the professional knowledge of a person skilled in the art. It would be obvious for a person skilled in the art to apply this feature, to like effect, and thus to arrive at a rotary/pressure actuator as per claim 3.

3.2.2 In the case of dependent claims 4-5 and 7:

- claim 4: the addition of a receiving cylinder (4) in the inner chamber (12) that holds the touchpad (2), the receiving cylinder being secured against rotation or in a rotary manner, is a minor structural modification of the control unit as per claims 1-3

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- which lies within the scope of what a person skilled in the art routinely does, on the basis of familiar considerations, especially since the advantages achieved thereby (the arrangement of the touchpad) are easily foreseeable. Consequently, the subject matter of claim 4 also fails to involve an inventive step;
- claim 5: the addition of a printed circuit board (8) that extends perpendicularly to the axis (z) and parallel to the bottom surface of the guide element, and receives the tracer (9), is a simple constructional measure which should be considered obvious, especially since (a) the control unit of D1 comprises a support plate which extends perpendicularly to the axis (z) and parallel to the bottom surface of the guide element, (b) a person skilled in the art would easily design this support plate as a printed circuit board in order to receive the tracer;
  - claim 7: the control unit is especially provided for controlling a multimedia system in a motor vehicle ([0001]) and "additionally comprises a cavity (40) for retaining the wrist when no central arm rest is provided in the vehicle for resting the wrist or arm in a relaxed position" ([0027]); consequently, it would be obvious to arrange it as an extension to an arm rest of the driver's seat.

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